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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,516	03/31/2004	William C. Cain	K35A1500	8226

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EXAMINER
CHEN, ALAN S

ART UNIT	PAPER NUMBER
2182	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,516	CAIN ET AL.	
	Examiner	Art Unit	
	Alan S. Chen	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/07/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/11/2007 has been entered.

Response to Arguments

2. Applicant's arguments in light of the amendment, filed 03/20/2007, with respect to the prior art rejections have been considered but are moot based on the new ground(s) of rejection to US Pat. No. 5,754,112 to Novak, US Pat. Pub. No. 2005/0160213 to Chen and US Pat. Pub. No. 2005/0044220 to Madhavan.

Claim Objections

3. Claim 14 is objected based on the limitation "a second display state" in the first line of the claim. It should read –the second display state– in reference to the respective limitation in parent claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Per claim 1, Novak discloses a method of displaying states of a peripheral data storage system *(Fig. 2 shows the peripheral devices, Disks 1-12 having light displays for state information)* comprising a data storage device *(Fig. 2, DISKS 1-12)*, a data storage system controller (Fig. 2, elements 50, the enclosure controls all the disks, particularly, controlling the light display for each disk), a user-actuated signaling subsystem *(Fig. 4, element 97 shows a user actuated switch, element 97 with corresponding subsystem, element 95-X, that activates/deactivates the switch)*, and a user display subsystem adapted to display the states *(Fig. 2, the array of LEDs; Fig. 3)*, the method comprising: communicating with a host system *(Fig. 2, element 40)* over a host interface *(Fig. 2, element 40)*; determining a state of the peripheral data storage system *(Fig. 3, each disk has it's current state determined and displayed)*; displaying a first display state via the user display subsystem when the peripheral data storage system is in an idle state *(Column 4, lines 57-61, steady LED light means storage unit is on, but not active or idle)*; displaying a second display state via the user display subsystem when the peripheral data storage system is in a state corresponding to receiving a signal from the user-actuated signaling subsystem *(Figs. 4A-C shows displayed states corresponding to the relative position of the user activated mechanical switch, element 97)*; displaying a third display state via the user display subsystem when the peripheral data storage system is in a dynamically active state *(Column 4, lines 66-Column 5, lines 5, blinking LED means disk is in active state and cannot be removed)*; and displaying a fourth display state via the user display subsystem when the peripheral data storage system is in an off state *(Column 6, lines 5-6, steady no LED light means off state)*.

7. Per claim 2, Novak discloses claim 1, Novak further disclosing the user display subsystem comprises an electromechanical switch for turning on/off the peripheral data storage system *(Column 6, lines 20-23, element 95-X is electro-mechanical)*.

8. Per claim 3, Novak discloses claim 2, Novak further discloses the display device are LEDs *(Fig. 2)*.

9. Per claim 5, Novak discloses claim 3, Novak further discloses the first display when idle is a continuous light emission (*Column 4, lines 57-61, steady LED light means storage unit is on, but not active or idle)*.

10. Per claim 6-8, Novak discloses claim 3, Novak further discloses the display when receiving signal from the user-actuated subsystem is a flashing pattern *(Fig. 4B, flashing LED light for active state)*.

11. Per claim 9, Novak discloses claim 3, Novak further discloses the off state being displayed with no LED emission *(Column 6, lines 5-6, steady no LED light means off state)*.

12. Per claim 10, Novak discloses claim 1, Novak further discloses the received signal corresponds to a first user-inputted request for mounting and dismounting the disk drive *(Figs. 4A-C shows disk drive physical inserted and removed from the connection to the enclosure by the user)*.

13. Per claim 13, Novak discloses claim 1, Novak further discloses the off state corresponds to an off state of the data storage device *(Fig. 2, when no LED is displaying light, it means an off state for a specific disk drive, e.g., the case for DISK10)*.

14. Per claims 15, Novak discloses claim 10, Novak further discloses a first electromechanical switch *(Fig. 4, element 95)* that generates a signal to the LED based on what the user decides to do for mounting and dismounting disk drive *(Fig. 4)*.

15. Per claim 19, Novak discloses claim 1, wherein the peripheral data storage system comprises a disk drive system and wherein the data storage device is a disk drive *(Fig. 2)*.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 7 and 8 are rejected under 35 USC 103(a) as being unpatentable over Novak.

Novak discloses claim 3.

Novak does not disclose expressly the details of the pattern/periodicity of flashing LED for the various states.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have one distinct pattern/periodicity of emitted light from the LED.

The suggestion/motivation for doing so would have been to avoid the confusion of using the same visual identifier for various states/statuses, and simply to have one specific visual identifier per status/state. It is clearly a design choice how one wishes to flash the LED.

18.

19. Claims 4,14 and 16-18 are rejected under 35 USC 103(a) as being unpatentable over Novak in view of US Pat. Pub. No. 2005/0160213 to Chen.

Novak discloses claim 3.

Novak does not disclose having an alphanumeric display adapted to display the various display states and other statuses during communication of the storage system with a host device in the form of alphanumeric characters. Novak also does not disclose having a plurality of electromechanical switches for various requests by the admistrator or communications over USB.

Chen discloses a servers system with LED and LCD display capabilities to enable the administrator to monitor the status of the server via controlling the light emission from the LED and the alphanumeric display on the LCD *(Fig. 2, elements 118 and 122)*. Chen also discloses various states in communications between the host and storage device *(Fig. 6)* the statuses of which are displayed in LCD. Chen further discloses having a plurality of electromechanical buttons to issue commands by the user *(Fig. 5, element 156 and 160)* and communications over USB *(Fig. 2, element 104)*.

Novak and Chen are analogous art because they are from the same field of endeavor in giving visual indicators to the administrator of the various statuses of host computer and storage device communications as well as interfacing of host systems to peripheral devices.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a LCD to display alphanumeric status indicators as well as a plurality of electromechanical switches to allow convenient control functions by the user. In addition use of USB interface would have been obvious.

The suggestion/motivation for doing so would have been alphanumeric indicators convey more information about the system and can be more easily recognized by the user than simply LEDs. The more detailed information about the operations of the computer system, the more aware the administrator will be, particularly helpful in determining sources of error in the system. Electromechanical switches enable the administrator to initiate critical commands on demand, e.g., shutdown and interrupt procedures *(as per Fig. 5, element 156 and 160 of Chen)*, being a convenient feature provided to the administrator. Use of a popular data communication standard such as USB would allow for interoperability with various devices from a variety of manufacturers.

20. Claims 11 and 12 are rejected under 35 USC 103(a) as being unpatentable over Novak in view of US Pat. Pub. No. 2005/0044220 to Madhavan.

Novak discloses claim 1.

Novak does not disclose backing up functions initiated by user actuated signaling.

Madhavan discloses applications for disk arrays *(Fig. 5, element 508)*, particularly for backing up data.

Novak and Madhavan are analogous art because they are from the same field of endeavor in use of disk arrays.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the disk array for Novak *(Fig. 2)* for the express purpose of backing up data that is actuated and specified by the user.

The suggestion/motivation for doing so would have been the amount of space and redundancy provided by a storage array is conducive for reliable and large capacity storage.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC
04/30/2007

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